

ABSTRACT OF THE DISCLOSURE

A high-frequency semiconductor device is provided with a ceramic substrate, an element group including semiconductor elements and passive components mounted onto a bottom portion of the ceramic substrate, and a composite resin material layer formed on the bottom portion of the ceramic substrate so as to bury the element group. The composite resin material layer is formed by a composite resin material including an epoxy resin and an inorganic filler material, and has a flat bottom surface on which electrodes for connecting to the outside are formed. As packaging of a structure in which the receiving system and the transmitting system are formed in a single unit, such as an RF module, the high-frequency semiconductor device achieves a small size, a high mounting density, and excellent heat release properties.